



HQ CIVIL WORKS ENGINEERING NOTES

Volume III Number 2

5 November 1997

Notes from Steve Stockton, Chief, Engineering Division

I congratulate all Engineering personnel for their efforts in helping the Corps of Engineers meet its Fiscal Year 1997 private sector contracting goal. A number of the Divisions exceeded their targets and the Engineering programmatic target of 40% was exceeded by 0.2%. Division level contracting targets for Fiscal Year 1998 have been developed and a guidance memorandum was signed by the Director of Civil Works on 3 November. It is the Divisions' responsibility to establish targets for their Districts. This action should be completed as soon as possible to allow the Districts the maximum amount of time to plan and execute their programs. With continued command emphasis we will be able to meet the programmatic goals of 35% for Planning and 40% for Engineering again this year.

During October I attended two important Corps-wide meetings. The first was the DETS-PPM SES meeting and the second was the MSC Chiefs of Engineering and Planning meeting. At both of these meetings the underlying theme was the continuing change that is required to produce quality products, on-time, and within budget. With current budget restrictions, this will only occur when we cease thinking of the Corps as 41 separate Districts and start thinking and seeing the Corps as one organization. In the future the various offices (Projects, Districts, and Divisions) will be linked together to share resources. The customer will have a single door to the Corps

where they will present their requirements and receive their product, which may have been produced by a number of professionals working at different locations around the world. Notes from both of the meetings are included as Appendices A, B, and C to these notes.

Again this month the notes are being published as two separate files; one with the basic notes and one with the appendices.

[Stockton, (202) 761-0215]

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CURRENT NEWS FROM CWE

1998 JOINT ENGINEERING TECHNOLOGY TRANSFER AND TRAINING CONFERENCE

The Missouri River Regional Headquarters, Northwestern Division and the Kansas City District will jointly host the 1998 Joint Engineering Technology Transfer and Training Conference in Kansas City, Missouri, 2 through 4 June 1998.

This conference will consist of three separate technical conference covering Dam Safety Coordination, Water Quality, and Mechanical and Electrical Design. Announcements with additional details for lodging and with tentative agendas for the individual disciplines will be provided in separate announcements from headquarters. [Bank, (202) 761-1660]

CORPS OF ENGINEERS BOARD OF DIRECTORS

The Chief of Engineers has established a Corps of Engineers Board of Directors. On 28 October 1997, the first working meeting of the USACE Board of Directors (BOD). The meeting began at approximately 1100 and concluded at approximately 1700. Attending the meeting were LTG Ballard, MG Genetti, all USACE Division Commanders (or designated representatives), Mr. Donald Herndon, Ms. Kristine Allaman, Dr. Ed Link, designated representatives from the Emerging Leaders Group, and other USACE staff. The Chief addressed the BOD at the opening of the meeting and again at the conclusion. As part of his remarks the

Chief outlined the mission and responsibilities of the BOD. A full report on the BOD meeting is included as Appendix D to these notes. [Stockton, (202) 761-0215]

DRAFT PROGRAM & PROJECT MANAGEMENT REGULATION, ER 5-1-11

A draft of the new Program and Project Management Regulation, ER 5-1-11, has been mailed to the MSC Commanders. The new ER 5-1-11, when issued, will replace ER 5-7-1(FR), dated 30 Sep 92. A copy of the memorandum and the draft regulation are included as Appendix E to these notes.

Request the all Engineering organizations review the draft regulation and submit your comments through your local PPMD organization for transmittal to HQUSACE by the suspense date of 21 November 1997. (Note: District and Division PPMD's may set early suspense dates.) [Pearre, (202) 761-4531]

DIGITAL PROJECT NOTEBOOK

The Civil Works Digital Project Notebook (CW/DPN) on CD-ROM, which was demonstrated at the Chiefs of Engineering Meeting in June in Nashville, is being updated. The Director of Civil Works is sending a memorandum to Division and District Commanders providing them a personal copy and asking for their support with this effort. Since its initial limited distribution in June, there have been numerous requests for this product, as well as suggestions for expanding its scope and moving it to a World Wide Web (WWW)

environment. Work on both of these

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suggestions is underway.

Unfortunately there has been very little input from the Districts to update and correct the content of the initial version. It is requested that each District review and correct their portion of the current DPN and provide digital photographs of their projects for inclusion in the next release of the DPN. Detailed instructions for this process are in the MG Fuhrman memorandum. The status of each district's portion of the DPN is also in the MG Fuhrman memorandum. As you know from the Nashville meeting, all districts have some areas that need to be updated and only two districts have submitted project photographs. These project photographs really bring the DPN to life, as users can actually see what the Corps of Engineers has built. Updates are due by 1 December 1997. Technical questions and updates should be submitted to Mrs. Rebecca Ragon, U.S. Army Topographic Engineering Center, ATTN: CETEC-TD-G (Project Maps), 7701 Telegraph Road, Alexandria, VA 22315-3864. Mrs. Ragon's telephone number is (703) 428-6766, ext. 2476, and her facsimile number is (703) 428-8176. She may also be reached by E-mail at "rebecca.ragon@cetec-td-g.tec01.usace.army.mil".

General questions and policy issues should be referred to Mr. M.K. Miles, HQUSACE, ATTN: CECW-EP, 20 Massachusetts Ave. NW, Washington, DC 20314-1000. Mr. Miles may also be reached by E-mail at "moody.miles@usace.army.mil". [Miles, (202) 761-8885]

CWE INFORMATION

INTERAGENCY COMMITTEE ON DAM SAFETY (ICODS)

The need for positive action and leadership to assure safe dams has long been established by the President, Acts of Congress, actions of Federal agencies, State governments, professional societies, engineers, public concerns, and now has been reemphasized by Public Law 104-303. It is necessary for Federal agencies involved with dams to coordinate their activities to ensure the optimum use of resources. These agencies also are responsible for providing leadership so that others may benefit from the skills, experience, and programs of the Federal establishment. The Interagency Committee on Dam Safety (ICODS) provides the framework for meeting these objectives.

Since its creation in 1980, ICODS has encouraged Federal and State agencies to establish and maintain programs, policies, and guidelines that enhance dam safety for the protection of human life and property. This is achieved through coordination and information exchange among Federal agencies and State dam safety officials with common problems and responsibilities for dam safety, e.g., planning, design, construction, operation, emergency actions, inspections, maintenance, regulation or licensing, technical or financial assistance, research, data collection, and ultimate disposition. ICODS provides the permanent forum for these organizations to advise the Federal Emergency Management Agency (FEMA) on institutional, managerial, technical, legislative, and policy issues

affecting national dam safety. The mission of ICODS is aligned with the objectives of the National Dam Safety Program (Program).

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Since 1980, ICODS has been composed of representatives from all the Federal agencies that build, own, operate, or regulate dams. ICODS has several working groups and subcommittees which examine issues in detail before bringing them before the full Committee.

The following Federal agencies serve on ICODS.

- Department of Agriculture
- Department of Defense
- Department of Energy
- Department of Interior
- Department of Labor
- Federal Emergency Management Agency
- Federal Energy Regulatory Commission
- International Boundary and Water Commission (U.S. Section)
- Nuclear Regulatory Commission
- Tennessee Valley Authority

ICODS encourages the establishment and maintenance of effective Federal and State programs, policies, and guidelines intended to enhance dam safety for the protection of human life and property. ICODS accomplishes this through (1) coordination and information exchange among Federal agencies and State dam safety agencies; (2) coordination and information exchange among Federal agencies concerning implementation of the *Federal Guidelines for Dam Safety*; (3) Federal activities that foster State efforts to develop and implement effective programs for the safety of dams; (4)

improved techniques, historical experience, and equipment for rapid and effective dam construction, rehabilitation, and inspection; and (5) devices for the continued monitoring of the safety of dams.

FEMA and the Implementation Task Force (Task Force) revised the ICODS charter and its operating rules to cite Public Law 104-303 as the basis for the organization. Reaffirmed in the new charter is the mission of ICODS and its role for achieving coordination and information exchange among Federal and State dam safety agencies. The revised charter for ICODS will be submitted to the *Federal Register* for publication.

Six subcommittees serve under ICODS and focus on activities essential to carrying out the goals of the National Dam Safety Program. The subcommittees have been revitalized to accomplish the requirements of Public Law 104-303 and include a balance of Federal and State representation which will enhance the sharing of information needed to meet Program goals. Additional information on the subcommittees is included in Appendix F. [Pearre, (202) 761-4531]

DID YOU KNOW

ELECTRONIC BID SOLICITATIONS (EBS)

Based on the success to date of Electronic Bid Solicitations (EBS) on our military

construction projects and its acceptance by the GAO, the Director of Civil Works is sending out targets for the Civil Works Program implementation of EBS.

1. For FY98 all construction projects over \$5,000,000 should be in EBS format.
2. For FY99 all construction projects over \$1,000,000 should be in EBS format.

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3. For FY2000 all construction projects, except the minor incidental projects with just a few drawings and a few pages of specifications, should be in EBS format.

For those districts with little or no experience with the EBS format, you may wish to contact someone from the EBS Working Group which consists of representatives from HQUSACE/CEMP-EC, Ft. Worth, Omaha, Mobile, and Sacramento Districts, and/or the Tri-Services CADD/GIS Technology Center. Technical questions should be directed to Mr. Elias Arredondo, CEWES-ID, (601) 634-3140. The HQ points of contact for policy and implementation issues are Mr. James Justin Taylor, CEMP-EC, (202)761-1246 and Mr. Charles Gregory, CEIM-IV, (202) 761-1813. The Civil Works point of contact is Mr. M.K. Miles. [Miles, (202) 761-8885]

Fiscal Year 1996 program, the policy is still in effect. Each decision document on projects in excess of \$2,000,000, that submitted for a Washington level should address the value engineering plans. The policy is stated below for your information.

Consistent with CEMP-EV/CECW-E memorandum, 8 March 1996, subject: FY96 Civil Works Program Value Engineering (VE) Program, for all projects costing in excess of \$2,000,000, a value engineering study shall be performed on the earliest document available that satisfies the functional requirement of the project and includes a comprehensive MCACES, cost estimate. If the district determines that a value engineering study is not cost effective, a waiver must be approved by the Division Commander and a copy provided to CEMP-EV. [Wallace, (202) 761-8890]

DECISION DOCUMENT REVIEWS

One of the continuing omissions that is found in draft decision documents submitted to headquarters for review is the lack of a discussion of value engineering studies for the project. While the policy was stated in a memorandum issued in March 1996 for the

SENIOR EXECUTIVE VACANCIES

Just a reminder that we need your help in getting the word out on our six field Senior Executive Service (SES) vacancies. The announcements DA 20-97 and DA 21-97 opened on 17 October 1997 and close on 17 November 1997. These announcements

cover the Director of Engineering and Technical Services at Fort Shafter, Hawaii, and Vicksburg, Mississippi and the Director of Programs Manager at Cincinnati, Ohio, New York, New York, Atlanta, Georgia, and Portland, Oregon. For more information on these positions individuals can contact Mr. Tom Peters at (202) 761-1763.

Also, Ms Susan Duncan, Director of Human Resources, (202) 761-0559, will be happy to talk to anyone about the SES and the application process.

Additionally, to let you know. Federal Energy Regulatory Commission is advertising a position -- Director, Office of Hydropower Licensing, ES-340, Washington, DC, announcement #EX-97-05, which closes 26 November 1997. Additional information on this or any and all SES announcements can be obtained from Army Civilian Personnel Online at "http://cpol.army.mil". [Pearre, (202) 761-4531]

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IMPLICATIONS OF EL NINO

The Water and Power Resources Subcommittee of the House Resources Committee held a hearing on the impact the 1997-98 El Nino will have on water management. Federal panelist included representatives from NOAA, USBR, and USGS. The Corps was not on the panel; however, Engineering Division was represented at the hearing. Two points of interest came out of the hearing. First, southern California and points east are not the only areas that have a high probability of the El Nino effect. Although the 1983 El Nino dropped 150 to 200 percent of normal rainfall on this area, the 1877-78 El Nino,

possibly the largest of record, dumped 280 to 400 percent of normal rainfall on Red Bluff in northern California and much less in the southern end of the state. NOAA believes northern California also has a high probability of being hit. Second, the instrumentation of the ocean is much improved since 1983. Seventy new floating buoys distributed along the equator from South America to Asia take surface and subsurface measurements to depths as low as 500 meters. Data over the past five years have been very useful in tracking the current event. [Wingerd, (202) 761-8502]

YOU ASKED

The following question was submitted to Programs Division by the South Atlantic Division concerning a remark by the Chief of Engineers during his recent trip to the Huntsville Engineering Support and Training Center.

Question: Reference is made to LTG Ballard's comment about abolishing the Technical Managers positions. Can you give me the Corps definition "concept" of the TM (Technical Manager)?

I have had questions from several people wanting to know exactly what the current Corps concept is.

Is it the chief of a technical element, i.e. the Chief of Planning?

Is it a Team Leader shepherding the work activities within the district required to complete a feasibility report?

Is this a person, business process, or internal management technique that should be abolished?

I have my own concept as well as do many other across the Corps, most of which do not agree with the others. I would appreciate any help you can give me on this issue.

HQ Response: This issue is actually very simple -- at least in concept. The old Engineer Regulation established a rather formal system of technical managers who had a structured role WITHIN the Project Management system. In both perception and reality, these technical managers had responsibilities that overlapped with those of the project manager, diffused lines of responsibility and accountability, confused

sponsors and customers, and did not let the PPM system mature as was intended. The Chief has stated quite firmly that the formal designation of technical managers must be done away with and the Project Manager is to become THE individual responsible and

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accountable for the overall project. No one doubts that technical elements will still have significant management responsibilities -- but these will relate only to the products they are producing and the resources they have been given to produce them and not to the project as a whole. Lastly, no one intends for technical chief positions to be done away with. That's not even an issue.

[Caver, (202) 761-0191]

Questions are needed by the 15th of the month for the next issue of HQ CIVIL WORKS ENGINEERING NOTES.

Questions can be sent by FAX to (202) 761-4002 or by e-mail to Charles Pearre.

[Pearre, (202) 761-4531]

DAM SAFETY PROGRAM

ICODS DAM SAFETY SEMINAR SCHEDULED FOR FEBRUARY

The 1998 Interagency Committee on Dam Safety training seminar has been scheduled for 18-19 February 1998 at the FEMA National Emergency Training Center in Emmitsburg, Maryland. This year's topic is "Mitigation of the Hazards of Dams." This seminar will feature overviews of mitigation strategies of States and Federal Agencies, and case studies on dam safety fixes (including 2 by the Corps). Besides State, Federal, and student representatives (total of approximately 150 attendees), nationally recognized dam safety consultants will be in attendance as presenters and training moderators. Additional information will be furnished as the details are finalized.

[Bank, (202) 761-1660]

DAM SAFETY COORDINATORS CONFERENCE

Dam Safety Coordinators Corps-wide will be meeting as part of the Corps of Engineers 1998 Joint Engineering Technology Transfer and Training Conference in Kansas City, 2 through 4 June 1998. There is still time to submit topics for this meeting.

[Bank, (202) 761-1660].

DAM FAILURE, ANITA RESERVOIR, MONTANA

We learned of this failure in April and were given the preliminary assessment - failure by piping along the conduit on the initial filling. The Bureau of Land Management's report documents the findings and most importantly highlights many lessons learned not only on the actual design and construction, but the need for an experienced design team and adequate technical review.

The dam was a 42 feet high, 1,012 feet long homogenous earth embankment constructed with dispersive soils. Reservoir control was obtained by an outlet works consisting of a 48 inch riser connected to a 42 inch outlet pipe with concrete seepage collars and spillways excavated in each abutment. It was a "Low Hazard" dam and the design and construction supervision was accomplished by an pilot program with an in-house joint venture of Bureau of Reclamation (BOR) and Bureau of Land Management (BLM) personnel. The dam failed on 26 March 1997 during initial filling with no loss of life.

The design was performed at the BLM District Office using the 1997 BOR design

guidance and reviewed at the BLM State

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Office. Limited exploration was made because of the budget and schedule.

Construction documents consisted of standard BLM specifications which were being changed after advertising but finalized prior to award. The report indicates that the construction inspection was adequate. During the initial filling in March 1997, as a result of snow melt and heavy runoff, failure occurred.

Seepage and piping have been the major cause of incidents and failure in the United States since the 1950's. The report conclusions correctly state that this type of problem with dispersive soils was discovered in the early 1970's. Furthermore, in the early 1970's, the Corps discovered that the use of seepage collars around conduits through embankments caused serious seepage problems as a result of difficulties in obtaining adequate compaction and a lack of filter material. In 1973, the Corps issued guidance (ETL) that eliminated seepage collars and required the downstream portion of a conduit or pipe be protected by an annular section of properly designed filter material. Time has proved this methodology to work extremely well, but "time" has also allowed many to forget and the new, young engineers not to know!

In summary, the report's conclusions are right on target and can best be described as a requirement for a properly managed and scheduled design that is accomplished by a team that contains an appropriate mix of young and experienced engineers, adequate exploration and testing, an adequate independent technical review and adequate

time to prepare the contract documents.

Since 1990, CECW-EG has emphasized the proper design procedures for seepage and piping in our Dam Safety and Seepage and Piping courses. We are putting emphasis on pipe crossings in our revised Levee manual. We have had specialty lectures on seepage and piping in ICODS seminars and our recent geotechnical conference. In addition, I have been insisting on the participation of our senior CECW-EG staff in the technical oversight and consultation on the design and construction for all significant water retaining structures. I really feel that this is an important aspect of our role here in headquarters. To emphasize this point, while making a cursory technical check during a recent policy compliance review of a district flood control project, it was discovered that the proposed levee contained a pipe with seepage collars and no filter!

What concerns me most, is that as we downsize our districts, the experienced individuals are leaving and we now have a young energetic staff who need technical guidance and mentoring so they can gain the right experience. This can not be provided to an adequate level at a small district. We must insist on an adequate level of independent technical review. Bottom line, to avoid situations like the above we need to designate regional design districts that will have sufficient workload to maintain the "critical mass" of technical capability that is required to continue to produce the type and quality of work that our reputation have been built on. [Walz, (202) 761-8681]

District submissions of dam safety items of interest, including dam safety incidents (Corps or other), for inclusion in this section are requested. Information is needed by the

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15th of each month. [Pearre, (202) 761-4531]

Your information is needed by the 15th of the month for the next issue. [Wallace, (202) 761-8890]

FIELD INFO TO SHARE

USE OF ELECTRONIC BID SETS IN CIVIL WORKS

The following “good news” on the use of electronic bid sets was furnished by MG Anderson, Commander, Mississippi Valley Division.

This is good news but not really a surprise to me. In my opinion the Civil Works community in the Corps is way behind in the use of Electronic Bid Sets. Military Programs has had great results for many months now. Let's get on with this!

Vicksburg District conducted two demonstrations on electronic bid sets (EBS) on 9 October 1997. They had about 50 contractors in the first demonstration and about 25 in the second. Comments received from the contractors were very positive. Most contractors saw advantages in using EBS. No one voiced any opposition to the process. Vicksburg is preparing to issue their first three solicitations using EBS in late October or early November.
[Stockton, (202) 761-0215]

Districts are encourage to submit information for this section. Also, tell us your ideas on how HQ CWE can do it better and what you would like to know about.